

REMARKS/ARGUMENTS

In the Office Action of January 5, 2011, claims 1-8 and 13-16 were rejected. In response, claims 1, 3, 4 and 8 have been amended. Applicant hereby requests reconsideration of the application in view of the amended claims and the below-provided remarks.

Information Disclosure Statement (IDS)

An information disclosure statement (IDS) was filed on July 12, 2010. However, Applicant notes that the Examiner has not confirmed that the references cited in the IDS have been considered. Applicant herein requests the Examiner to properly **confirm** that the references cited in the IDS have been considered.

Claim Rejections under 35 U.S.C. § 112, First Paragraph

Claims 1, 3, 4, and 8 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. The Office Action states that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. (See page 2 of the Office Action). Specifically, the Office Action states that instead of $(N+1)/N$ or $(N-1)/N$ of claims 1, 3, 4, and 8, Applicant's specification discloses $N/(N+1)$ or $N/(N-1)$. (See page 2 of the Office Action).

In response, claims 1, 3, 4 and 8 have been amended to replace the phrase "*the ratio between the center frequency and a frequency of the first mixing signal is equal to $(N+1)/N$ or $(N-1)/N$, wherein N is the division factor*" with the phrase "*the first frequency has a ratio of $N/(N+1)$ or $N/(N-1)$ to the center frequency, and wherein N is the division factor.*" Support for amendments to claims 1, 3, 4, and 8 is found in Applicant's specification in, for example, lines 5-7 on page 3, lines 1-4 on page 4, and Tables 1 and 2 on page 3. Applicant hereby submits that the rejections to claims 1, 3, 4, and 8 under 35 U.S.C. § 112, first paragraph, are moot in view of the claim amendments. Thus, Applicant respectfully requests that the rejections to claims 1, 3, 4, and 8 under 35 U.S.C. § 112, first paragraph, be withdrawn.

Claim Rejections under 35 U.S.C. 103

Claims 1, 8, 13 and 16 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Shen (U.S. Pat. Pub. No. 2004/0116087 A1) in view of Bradley (U.S. Pat. No. 6,087,865). Claim 2 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Shen in view of Bradley and further in view of Durec (U.S. Pat. No. 6,144,846). Claims 3-6 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Baltus (U.S. Pat. No. 6,282,413 B1) in view of Bradley. Claim 7 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Baltus in view of Bradley and further in view of Darabi (U.S. Pat. Pub. No. 2006/0205374 A1). Claims 14 and 15 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Baltus in view of Bradley and further in view of Shen. As described above, claims 1, 3, 4 and 8 have been amended. Applicant respectfully submits that pending claims 1-8 and 13-16 are patentable over the cited references.

Independent Claim 1

Applicant respectfully asserts that Shen in view of Bradley does not teach all of the limitations of amended claim 1. Thus, Applicant respectfully asserts that amended claim 1 is patentable over Shen in view of Bradley.

The Office Action recognizes that Shen does not teach the limitation “*a division factor of the frequency divider and a ratio between the center frequency and the first frequency are determined by the one of at least two frequency bands, wherein the ratio between the center frequency and a frequency of the first mixing signal is equal to $(N+1)/N$ or $(N-1)/N$, wherein N is the division factor*” of claim 1. (See pages 3 and 4 of the Office Action). Similarly, Shen also does not teach the limitation “*the first frequency has a ratio of $N/(N+1)$ or $N/(N-1)$ to the center frequency, and wherein N is the division factor*” (emphasis added), as recited in amended claim 1.

In addition, Applicant respectfully asserts that Bradley does not teach the limitation “*the first frequency has a ratio of $N/(N+1)$ or $N/(N-1)$ to the center frequency, and wherein N is the division factor*” (emphasis added), as recited in amended claim 1.

Bradley teaches that a frequency synthesizer (203) processes a signal having a frequency of F_{IN} from a signal generator (200) to provide a signal having a frequency of F_S set to $F_{IN}(N+1)/N$ or $F_{IN}(N-1)/N$ to a mixer (201). (See Fig. 3 and column 3,

line 64-column 4, line 7 of Bradley). As a result, Bradley does not teach the limitation “*the first frequency has a ratio of $N/(N+1)$ or $N/(N-1)$ to the center frequency, and wherein N is the division factor*” (emphasis added), as recited in amended claim 1. Thus, Shen in view of Bradley does not teach all of the limitations of amended claim 1. As a result, Applicant respectfully asserts that amended claim 1 is patentable over Shen in view of Bradley.

Dependent Claims 2 and 13

Claims 2 and 13 depend from and incorporate all of the limitations of independent claim 1. Thus, Applicant respectfully asserts that claims 2 and 13 are allowable at least based on an allowable claim 1. In addition, claim 13 is allowable for further reasons, as described below.

Dependent claim 13

Claim 13 recites in part that “*frequencies of the first mixing signal and the second mixing signal are not fixed and are variably dependent on the center frequency of the radio frequency signal*” (emphasis added). The Office Action suggests that Shen teaches the above-identified limitation of claim 13. (See page 4 of the Office Action). However, Applicant respectfully disagrees.

Shen teaches that an RF communication receiver includes a tracking image rejection filter (79), a first local oscillator (87), a mixer (81), a frequency divider (89) and a second mixer (85). (See Fig. 3 and paragraph [0019] of Shen). The Office Action on page 3 suggests that the frequency divider (89) is equivalent to the “*frequency divider*” of claim 1. The Office Action also suggests that paragraph [0019] of Shen discloses “intermediate frequency to be variable, center frequency is also variable with the local oscillator.” (See page 4 of the Office Action).

However, Shen on paragraph [0019] teaches that in order for the tracking image rejection filter (79) to effectively suppress image frequencies of a variable intermediate frequency, the center frequency of the tracking image rejection filter (79) should vary with the local oscillator (87). That is, paragraph [0019] of Shen merely teaches that the center frequency of the tracking image rejection filter (79) may vary with the local oscillator (87). However, Shen does not teach that the output signals of the local oscillator (87) and the frequency divider (89) are variably dependent on the center frequency of the incoming radio frequency signal. Thus, Shen does not teach

“frequencies of the first mixing signal and the second mixing signal are not fixed and are variably dependent on the center frequency of the radio frequency signal”

(emphasis added), as recited in claim 13. Because Shen in view of Bradley does not teach all of the limitations of claim 13, Applicant respectfully asserts that claim 13 is patentable over Shen in view of Bradley.

Independent Claim 3

Amended claim 3 includes similar limitations to amended claim 1. Although the language of amended claim 3 differs from the language of amended claim 1 and the scope of amended claim 3 should be interpreted independently of amended claim 1, Applicant respectfully asserts that the remarks provided above in regard to amended claim 1 apply also to amended claim 3 with respect to Bradley. In addition, Baltus fails to teach *“the first frequency has a ratio of $N/(N+1)$ or $N/(N-1)$ to the center frequency, and wherein N is the division factor”* (emphasis added), as recited in amended claim 3. Thus, Applicant respectfully asserts that amended claim 3 is patentable over Baltus in view of Bradley.

Dependent Claim 14

Claim 14 depends from and incorporates all of the limitations of independent claim 3. Thus, Applicant respectfully asserts that claim 14 is allowable at least based on an allowable claim 3. In addition, claim 14 includes similar limitations to claim 13. Although the language of claim 14 differs from the language of claim 13 and the scope of claim 14 should be interpreted independently of claim 1, Applicant respectfully asserts that the remarks provided above in regard to claim 13 apply also to claim 14.

Independent Claim 4

Amended claim 4 includes similar limitations to amended claim 1. Although the language of amended claim 4 differs from the language of amended claim 1 and the scope of amended claim 4 should be interpreted independently of amended claim 1, Applicant respectfully asserts that the remarks provided above in regard to amended claim 1 apply also to amended claim 4 with respect to Bradley. In addition, Baltus fails to teach *“the first frequency has a ratio of $N/(N+1)$ or $N/(N-1)$ to the center frequency, and wherein N is the division factor”* (emphasis added), as recited in

amended claim 4. Thus, Applicant respectfully asserts that amended claim 4 is patentable over Baltus in view of Bradley.

Dependent Claims 5-7 and 15

Claims 5-7 and 15 depend from and incorporate all of the limitations of independent claim 4. Thus, Applicant respectfully asserts that claims 5-7 and 15 are allowable at least based on an allowable claim 4. Additionally, claim 15 includes similar limitations to claim 14 and is rejected with claim 14. Because of the similarities between claim 14 and claim 15, Applicant respectfully asserts that the remarks provided above with regard to claim 14 apply also to claim 15.

Independent Claim 8

Amended claim 8 includes similar limitations to amended claim 1. Although the language of amended claim 8 differs from the language of amended claim 1 and the scope of amended claim 8 should be interpreted independently of amended claim 1, Applicant respectfully asserts that the remarks provided above in regard to amended claim 1 apply also to amended claim 8. Thus, Applicant respectfully asserts that amended claim 4 is patentable over Shen in view of Bradley.

Dependent Claim 16

Claim 16 depends from and incorporates all of the limitations of independent claim 8. Thus, Applicant respectfully asserts that claim 16 is allowable at least based on an allowable claim 8. Additionally, claim 16 includes similar limitations to claim 13 and is rejected in the same way as claim 13. Because of the similarities between claim 13 and claim 16, Applicant respectfully asserts that the remarks provided above with regard to claim 13 apply also to claim 16.

CONCLUSION

Generally, in this Amendment and Response to Office Action, Applicant has not raised all possible grounds for (a) traversing the rejections of the Office Action or (b) patentably distinguishing any new or currently amended claims (i.e., over the cited references or otherwise). Applicant however, reserves the right to explicate and expand on any ground already raised and/or to raise other grounds for traversing

and/or for distinguishing, including, without limitation, by explaining and/or distinguishing the subject matter of the Application and/or any cited reference at a later time (e.g., in the event that this Application does not proceed to issue with the current pending claims, or in the context of a continuing application). Applicant submits that nothing herein is, or should be deemed to be, a disclaimer of any rights, acquiescence in any rejection, or a waiver of any arguments that might have been raised but were not raised herein, or otherwise in the prosecution of this Application, whether as to the original claims or as to any of the new or amended claims, or otherwise. Without limiting the generality of the foregoing, Applicant reserves the right to reintroduce one or more of the original claims in original form or otherwise so as to claim the subject matter of those claims, both/either at a later time in prosecuting this Application or in the context of a continuing application.

Applicant respectfully requests reconsideration of the claims in view of the amended claims and the remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted on behalf of:

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Date: March 29, 2011

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